

**INTERNATIONAL SEARCH REPORT**

International Application No  
PCT/EP2004/010658

**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 7 G06F9/445 E21B33/035 E21B43/12

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 G06F E21B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 6 422 315 B1 (DEAN QUENTON WAYNE) 23 July 2002 (2002-07-23) column 5, line 36 – line 39; figure 17 column 14, line 25 – line 29 column 11, line 15 – line 28 -----	1-13
Y	US 2002/159439 A1 (MARSH ANITA B ET AL) 31 October 2002 (2002-10-31) page 1, paragraph 4 – paragraph 12; figures 2,4 page 4, paragraph 51 – paragraph 52 -----	1-13
Y	US 2002/180798 A1 (MAHONEY MARGARET MARY ET AL) 5 December 2002 (2002-12-05) paragraph '0008!; figure 1 paragraph '0035! – paragraph '0037! paragraph '0039! ----- -----	2-4,9, 10,12

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

\* Special categories of cited documents :

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the International filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the International filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*&\* document member of the same patent family

Date of the actual completion of the international search

17 January 2005

Date of mailing of the international search report

24/01/2005

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Dantinne, P

## INTERNATIONAL SEARCH REPORT

International Application No  
PCT/EP2004/010658

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 6 202 208 B1 (HOLIDAY JR MATTHEW R) 13 March 2001 (2001-03-13) column 2, line 31 – line 39; figure 1 column 3, line 18 – line 27 -----	4,12
Y	US 2002/174010 A1 (RICE JAMES L) 21 November 2002 (2002-11-21) paragraph '0215! – paragraph '0217!; figures 8,13 -----	5
A	US 5 941 305 A (PATTON MARK V ET AL) 24 August 1999 (1999-08-24) column 5, line 1 – line 15; figures 1,4 column 5, line 36 – line 39 column 10, line 29 – line 42 -----	1,8
A	WO 02/36936 A (HARDING RICHARD PATRICK ;BASSETT LONNIE (US); WEATHERFORD LAMB (US) 10 May 2002 (2002-05-10) page 8, line 25 – page 11, line 32; figures 1,2 -----	1,8

## INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No  
PCT/EP2004/010658

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
US 6422315	B1	23-07-2002	US	2003006070 A1	09-01-2003
US 2002159439	A1	31-10-2002	NONE		
US 2002180798	A1	05-12-2002	NONE		
US 6202208	B1	13-03-2001	NONE		
US 2002174010	A1	21-11-2002	WO	02097652 A1	05-12-2002
			US	2004199922 A1	07-10-2004
			AU	7127400 A	10-04-2001
			EP	1226511 A1	31-07-2002
			WO	0118664 A1	15-03-2001
US 5941305	A	24-08-1999	BR	9804679 A	03-11-1999
			CA	2231321 C	20-06-2000
			US	6041856 A	28-03-2000
WO 0236936	A	10-05-2002	AU	1069402 A	15-05-2002
			CA	2427332 A1	10-05-2002
			EP	1332276 A1	06-08-2003
			WO	0236936 A1	10-05-2002